

From: Bleiler, Justin
To: McDougal, Jason S
Subject: RE: Libbey Owens Ford Plant
Date: Wednesday, March 07, 2018 4:47:00 PM
Attachments: image004.jpg
[Libbey Owens Ford 2018 Tox Review.pdf](#)
[Libbey Owens-Hydro review.pdf](#)
[image003.jpg](#)

Hi Jake,

In addition to running the information by a hydro, I also ran it by a toxicologist due to the potential for vapor intrusion. Both of their reports (attached) suggested further groundwater investigation. So my recommendation would be that an SI be performed at the site. Can you add it to the cooperative agreement workplan?

I would focus the SI on the groundwater plume, using at least geoprosbes if not shallow groundwater wells. Then, if there seems to be a significant VOC plume, the next step would be to do a VI investigation at the buildings that are over the plume area. If you have any questions please let me know.

Thanks,

Justin Bleiler

Site Assessment Manager, HSCD
Environmental Protection Agency, Region 3
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215-814-3308
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From: McDougal, Jason S [mailto:Jason.S.McDougal@wv.gov]

Sent: Friday, February 02, 2018 11:23 AM

To: Bleiler, Justin <Bleiler.Justin@epa.gov>

Subject: RE: Libbey Owens Ford Plant

Justin,

Thanks for following up with this.

From: Bleiler, Justin [mailto:Bleiler.Justin@epa.gov]

Sent: Friday, February 2, 2018 10:55 AM

To: McDougal, Jason S <Jason.S.McDougal@wv.gov>

Subject: Libbey Owens Ford Plant

Hi Jake,

I will be sending the 2011 SI to one of our hydrogeologists for review to get their thoughts about whether groundwater or vapor intrusion pose any threats. I will let you know what I hear.

Thanks,

Justin Bleiler

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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

SUBJECT: Hydrogeological Review
Libbey Owens Ford Plant
Site Inspection

FROM: Ayowale Ayodele, Geologist
Technical Support Branch (3HS41)

TO: Justin Bleiler, Site Assessment Manager

Consequent upon your request as to whether the site contaminants will pose a vapor intrusion threat via groundwater to the adjacent residential building at the Libbey Owens Ford Plant Site; the following are for your consideration.

Concerns:

1. The statement that "Surface and Subsurface Soil COCs do not appear to represent a significant source of contamination at the site" is somewhat not clear. According to the report, although VOCs were not present in surface and sub surface soil, but SVOCs were present and Arsenic was found in both soil and groundwater.
 2. Lead (Pb) and Chromium (Cr) were found in sub surface soil but not in groundwater, and it appears that groundwater table of between 24 and 30 feet does exist on the site.

Conclusion:

As depicted by proper reviewing of Libbey Owens Site Inspection report, there are variety of factors that could influence vapor intrusion at the site;

- Concentration of the contaminant – which is above Industrial background level
 - Type of soil – porous and permeable enough to transmit VOCs and SVOCs
 - The depth to groundwater table – appears to occur between 24 and 30 feet
 - Radius of the residential building from the site – exist about 0.25 miles
 - Existence of underground utilities which can create pathways for vapors to travel – sparsely occur at the site
 - Condition of the adjacent building foundation or slab- not quite known



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Recommendation:

Based on the review of this SI report, the following recommendations should be considered:

- It is important to further characterize the groundwater flow direction and to determine the extent of site contaminant of concerns in groundwater;
- Additional on-site and off-site monitoring wells may be necessary to further review the present groundwater conditions, and to monitor the potential off-site migration of contaminants to the adjacent residential area;
- Groundwater Vapor Intrusion investigation may be necessary. However, this will be dependent on the result of the further groundwater investigation such as; types of aquifer system, depth at which the contaminants are found, groundwater flow path, extent of contaminants and some other factors listed above that influence vapor intrusion.

Should you have any questions or concerns, please contact me at **215-814-3265**.



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From: [Hubbard, Jennifer](#)
To: [Bleiler, Justin](#)
Cc: [Ayodele, Ayowale](#)
Subject: Libbey Owens Ford SI review
Date: Tuesday, February 20, 2018 11:31:13 AM
Attachments: [LOF SI Soil Multichem B.xlsx](#)

As requested, I have reviewed the above-named SI, with particular attention to human health risk assessment. The following comments are offered.

The data were validated using IM1 and M2 validation. If future decisions require more rigorous data quality (e.g., if the site should be scored for HRS), revalidation to a higher validation level may be necessary.

Section 5.6 muddies the distinction between chemicals of potential concern (COPCs) and contaminants of concern (COCs). In this case, the term COPC should actually be used, since the chemicals here did not receive a full quantitative risk assessment nor were they identified as needing remedial action objectives per the NCP.

This report was initially prepared in 2011 and thus used 2010 screening levels. In this review, I consulted the most recent screening levels, the fall 2017 RSLs. This results in some changes to the identification of COPCs. The SI screening also apparently used a Hazard Quotient of 1, when it should have used 0.1 to account for additive effects.

Sections 5.6.1, 5.6.2, 5.7: Because of the updated toxicity factors, PAHs would no longer be industrial COPCs in surface soil, and indeno[1,2,3-c,d]pyrene would no longer be an industrial COPC in subsurface soil.

Sections 5.6.3 and 5.7: Barium, nickel, vanadium and biphenyl should also be groundwater COPCs; PCE does not need to be a COPC.

Section 6.0: It is not clear why the report concludes that soil chemicals are not a significant source of contamination. The report does not perform a risk assessment beyond the screening step, so there is no demonstrated support for this statement. I performed simple default risk calculations (see attached) and found that using current defaults, worker exposures to this soil would fall within the NCP target risk ranges. However, future residential exposure to soils, especially subsurface soils, could exceed acceptable risks.

The potential residential risk drivers are arsenic, chromium, and benzo[a]pyrene. (However, the chromium risks conservatively assume hexavalent chromium, whereas the form of chromium in the soil may be the much less toxic trivalent species, and chromium might also be consistent with background, although background data were not available.) Although the site is currently used industrially, it is important to examine what controls exist to prevent unrestricted use of the site, and unacceptable risks, in the future.

The report should also note that groundwater concentrations of arsenic, TCE, BEHP, and carbon tetrachloride exceed MCLs.

Section 6.0: I agree that the extent of groundwater contamination is unknown, and that vapor intrusion should be considered.

Jennifer Hubbard, Toxicologist
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